

Chemistry 201—Chemistry for Engineering Majors I, Winter 2018

CRN: 33602, 33603, 33604

Instructor: David L. Rogow, Ph.D.

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Instructor Website: Go to [the LBCC homepage](#), click "QuickLinks", click "Instructor Website", then click [Rogow, David](#)

Office: MH-212 **Office Hours:** Tues. 1:00 - 2:50 pm, & Thurs. 2:00 - 3:50 pm

Lecture: MTWF 12:00 - 12:50 pm, in White Oak Hall, Room 203 (WOH-203)

Laboratory: In MH-206; **Instructor:** Clive Kittredge, Ph.D. (kittrec@linnbenton.edu)

Thursdays 8:00 AM to 10:50 AM in MH 206 **(CRN 33602)**

Thursdays 11:00 AM to 1:50 PM in MH 206 **(CRN 33603)**

Thursdays 2:00 PM to 4:50 PM in MH 206 **(CRN 33604)**

Course Description: The first of a two-term sequence of selected chemistry topics for pre-engineering students. Designed specifically to provide engineering majors a fundamental understanding of chemical reactions and scientific measurement. This course will introduce students to principles, laws and equations that govern our understanding of chemical combination.

Required Materials:

-Textbook: *Principles of General Chemistry, 3rd Ed.*, Silberberg

Note: The 2nd edition is also acceptable, as are 4th, 5th, 6th, or 7th editions of *Chemistry: The Molecular Nature of Matter and Change*, Silberberg and Amateis

-Online Homework: Access Code for Sapling

-Course Packet: *Chemistry 201 Lecture and Lab Manual*, Bridgid Backus

-A Carbonless Lab Notebook

-A Non-graphing/programmable Scientific Calculator

Optional Materials:

-Lab coat

-Personal Safety Goggles

Calculator Policy: Students will be required to use a non-graphing/programmable scientific calculator for quizzes and/or exams. Department approved calculators are: TI 30xa, TI 30X IIs, Casio fx-260, or HP 10s. If a student does not wish to purchase one of these calculators the department will provide either a Casio fx-260 or HP 10s for use on exams and/or quizzes.

Prerequisite/s: Completion of high school chemistry with a grade of "C" or better and a passing score on the chemistry entrance exam; or CH 150 Preparatory Chemistry with a grade of "C" or better or CH 121 College Chemistry with a grade of "C" or better, or CH 112 Chemistry for Health Occupations with a grade of "C" or better; MTH 095 Intermediate Algebra with a grade of "C" or better.

Co-requisite: MTH-111 College Algebra

Student Learning Outcomes:

1. Differentiate the historical developments leading to the development of the atomic theory and the Periodic Table.
2. Solve engineering related scientific problems with quantitative methods using dimensional analysis and/or algebra regarding unit conversions, stoichiometry, gas laws, and thermochemistry.
3. Apply chemical principles associated with chemical and physical changes and properties of matter, nomenclature, chemical reactions, thermochemistry, the kinetic theory of a gas, and quantum theory.
4. Work safely in a laboratory environment while observing and accurately recording measurements related to chemical phenomena.

Science Help Desk: The Science Help Desk is an excellent resource, located on the first floor of Madrone Hall in the atrium area. The Help Desk is staffed approximately 20 hours per week. Hours of the Help Desk are posted throughout Madrone Hall, and in the Help Desk area.

Attendance and Classroom Expectations: Class attendance is very important for the learning of chemistry. Students are expected to attend class regularly and on time. Students should avoid entering the classroom late or leaving before the class ends, as it is distracting to students and instructors. Students are required to turn off their cell phones during class periods. **If a student needs to use a cell phone (call or text) they are expected to leave the classroom to do so.**

Exams: All exams are given in class. Students who have conflicts with exam days due to other College functions, illness, or family emergencies must contact the instructor prior to the exam. Documentation of the College function, illness and/or family emergency must be provided to schedule a make-up exam.

Homework: To succeed in chemistry, like learning a foreign language, you should study and practice every day. As material is covered you will find the problems are easier to work and not as time consuming as if they are attempted just before the due date. Keep in mind a typical science course takes 3-4 hrs of work per week outside of class for every credit hour. Refer to the schedule for homework due dates and times. ***No late homework will be accepted. Solutions to the homework sets will be available after the due date.

In-Class Exercises: Throughout the course short individual and group problems may be given in class. These are opportunities to practice application of material covered in lecture and will be collected on the following day of class after they are assigned. No make-ups for these in class problems will be given.

Laboratory Reports: Lab reports are due at the beginning of YOUR next lab session after the completion of the experiment. Late lab reports receive a 10% per day mark down. One lowest lab report score is dropped and extra credit is given if all lab reports are turned in (see extra credit). You must receive at least 65% of the total lab points in order to pass the course regardless of passing the lecture. No make-up labs will be given. Also, if you miss more than three labs or turn in fewer than five reports you will not receive a passing grade for the course. This is a lab class and in order to pass the course you must pass the laboratory component.

Prelab Questions: Be sure to check the syllabus for which lab is assigned for a particular week. Most lab experiments described in the manual have prelab questions. Many of these questions are designed to emulate the laboratory experiment that is about to be performed. By answering these questions BEFORE the lab period students are able to understand and perform the experiment more effectively. Prelab questions should be done on separate sheets of paper and are due **within the first 5 minutes** of the lab period. The prelab assignments are worth from one to five points of the lab report grade.
No late prelabs are accepted.

Extra Credit: If you turn in ALL of your lab reports, rather than subtracting your lowest lab score, these points will remain in your score as extra credit.

Absence/Make-up Policy: Students who have conflicts with exam days due to College sanctioned events/functions, illness, or family emergencies must contact the instructor **prior** to the exam. Official documentation of the College function, illness and/or family emergency must be provided in order to schedule a make-up exam. “My alarm did not go off” or “My car would not start” are not valid excuses. Leave early and have a plan B. Transporting oneself to class on-time is the responsibility of every student who chooses to take part in an adult learning environment.

Grading/Point Distribution:

Assignments	Points
Homework: 7 @ 10 pts. each	70 pts.
Laboratory Reports: 8 @ 20 pts. each	160 pts.
Exercise #3	20 pts.
In Class Exercises	40 pts.
Exams 6 @ 50 pts. each	300 pts.
Final Exam	150 pts.
Total	740 pts.

Course Grade:

Percentage	Letter Grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F

An incomplete grade (I) may be given at the discretion of the instructor. However, a student must have a passing grade ($\geq 70\%$) at the time an incomplete is assigned.

Drop/Withdraw Policy: If a student wishes to withdraw from the class, a Schedule Change Form will need to be filed with Registration, or using WebRunner. If a student formally drops the class **by Monday of the second week of the term**, that student will receive a full refund of tuition. If a withdrawal is filed after the Monday of the second week of instruction through the seventh week, a ‘W’ will show up on the student’s transcript. No withdrawals are allowed after the end of the seventh week. An instructor may not assign a “W” grade. Students receiving financial aid and/or veteran’s benefits should speak with the associates at the appropriate office to determine what effects on eligibility dropping a course will have. Financial Aid can be

reached at (541) 917-4850, and is found in Takena Hall. If a student stops attending the course without formally withdrawing, that student will continue to accumulate grades (zeroes for all assignments not turned in) and will receive the grade assigned by the instructor based on the cumulative score for all assignments. Students will be held accountable for all charges on their accounts if a withdrawal is not filed.

How To Be Successful In This Class:

- Attend all classes.
- Be prepared for class by reading/working through the Course Manual units to be covered in class (see Lecture Schedule, page 5) before that class. Classroom experiences will be much richer for you when you have made an effort to work through the material before it is worked in class.
- Challenge your own taken-for-granted notions *and* let the instructor challenge them as well.
- Review the syllabus and learn policies and procedures for this class.
- Understand your rights and responsibilities as a student and as a class member.
- Learn how to ask clarifying questions and how to be a coach for your classmates.
- When confused, challenged, frustrated or having an “aha” moment, visit the instructor during their office hours.
- Be engaged and work from your stretch zone. You will get out of this class what you put into it.

In-Class Expectations: It is expected that all students will be involved in the class. This includes being present, asking questions and participating in discussions. Students should always come to class prepared by having read and worked through the relevant sections of the textbook and course manual outlined in the schedule on pg. 5 of the syllabus. No grade will be assigned for attendance in lecture, but to do well in this course it is expected that students will attend ALL class meetings. If a situation arises that makes it necessary to miss a class, it is the student’s responsibility to obtain notes from a peer. Every student is expected to be respectful of all students in the class, in word as well as behavior. Along these lines, turn off all cell phones before and during class and put it away so as to avoid causing a distraction. If a student needs to leave class for any reason, please do so quietly.

Course Evaluations: Student feedback is important to improve this course and to help the instructor know how to adjust teaching methods. Student feedback is taken seriously and does impact future versions of the course. The Student Evaluations of Teaching (SET’s) are anonymous, and will be done the 8th or 9th week of class, in class. The process takes approximately 10 minutes and it is highly encouraged to take this opportunity to provide constructive feedback on the class. Thank you in advance for your input!

Lecture Schedule: The schedule below includes a tentative list of sections to be covered, along with the *homework due dates* and **dates of exams**, as well as laboratory experiments to be performed each week.

Week # dates	Mon.	Tues.	Wed.	Fri.	Laboratory	Homework
1 1/8-1/12	Syllabus 1.1-1.2 Pg 25.	1.3-1.4	1.4-1.5 Exercise 2	Exercise 2 2.1-2.2	Safety, Lab Format Sig Fig Review Exercise 1 & 2 2.8 & Exercise 3 (Due next lab period)	
2 1/15-1/19	Holiday No Class	Exam 1 (Ch 1)	2.2-2.5	2.5-2.7	Balance Instructions Density (Expt 1) <i>Expt. 3 Due</i>	<i>Ch 1 Sapling Due Mon. (1/15) at 11:59 pm</i>
3 1/22-1/26	2.7-2.8 review	3.1	Exam 2 (Ch 2)	3.1-3.2 Exercise 4	Copper Cycle (Expt. 2)	<i>Ch 2 Sapling Due Mon. (1/22) at 11:59 pm</i>
4 1/29-2/2	3.2 Exercise 4	3.3 Exercise 5	3.4 Exercise 6	3.5 Exercise 6	Reaction Stoichiometry (Expt. 8)	
5 2/5-2/9	4.1	Exam 3 (Ch 3)	4.4	4.2- 4.3	Reactions of Ionic Compounds (Expt. 11)	<i>Ch 3 Sapling Due Sun. (2/4) at 11:59 pm</i>
6 2/12-2/16	4.2-4.3 Exercise 7	4.5 Exercise 7	4.5 Exercise 7	5.1-5.3 Exercise 8	Acid/Base Titration Techniques (Expt. 9)	
7 2/19-2/23	Holiday No Class	Exam 4 (Ch 4)	5.3-5.4 Exercise 8	5.4 Exercise 8	Decomposition of KClO ₃ (Expt. 13)	<i>Ch 4 Sapling Due Sun. (2/18) at 11:59 pm</i>
8 2/26-3/2	5.4-5.5 Exercise 8 & 9	5.5 Exercise 8 & 9	5.6, 6.1	Exam 5 (Ch 5)	Thermochemistry (Expt. 14)	
9 3/5-3/9	6.1-6.2	6.3-6.4 Exercise 10	6.5-6.6 Exercise 11	7.1-7.2	Thermochemistry: (Expt. 15)	<i>Ch 5 Sapling Due Sun. (3/4) at 11:59 pm</i>
10 3/12-3/16	Exam 6 (Ch 6)	7.2	7.2-7.3	7.4	Atomic Structure (Expt. 16)	<i>Ch 6 Sapling Due Sun. (3/11) at 11:59 pm</i>
11 3/19-3/23			Final Exam 1-2:50 pm			<i>Ch 7 Sapling Due Sun. (3/18) at 11:59 pm</i>

****Note:** This schedule of topics, homework due dates, and exam dates is tentative, and subject to change at the instructor's discretion. Sapling homework due dates are in *italics* and are to be completed before 11:59 pm on that date.

Academic Integrity: “An instructor has the right to issue a grade of F for the course in which the instructor has reason to believe the student has cheated. A student has the right to appeal such action in accordance with the Students’ Rights, Responsibilities and Conduct Policy.” The preceding statement is Administrative Rule No. 7030-01. Please see the College policy on Students’ Rights Responsibilities and Conduct: <https://www.linnbenton.edu/current-students/administration-information/policies/students-rights-responsibilities-and-conduct>

Students Rights, Responsibilities, and Conduct Policy: LBCC students have rights: the right to free speech, the right to assemble, the right of a free press, etc. LBCC students also have responsibilities to their community: the responsibility to participate and engage in class, the responsibility to advocate for their needs (ask for help), the responsibility to support a respectful teaching and learning environment, the responsibility to treat all persons with respect, the responsibility to be truthful and honest in all work and communications, and the responsibility to follow staff directions, local, state, and federal laws. Rights and responsibilities balance together to create the best learning environment. For example, while you have free speech in the café or courtyard, in class the instructor decides whose turn it is to talk and what the topics for conversation will be. Students are free to believe what they believe, but instructors may require students to learn and recite concepts, principles, or theories for a class even if the student does not believe those concepts. You play a role in creating a positive community at LBCC. Please review your rights and responsibilities at this link: <http://www.linnbenton.edu/go/studentrights>

Center for Accessibility Resources: You should meet with your instructor during the first week of class if:

1. You have a documented disability and need accommodations.
2. Your instructor needs to know medical information about you.
3. You need special arrangements in the event of an emergency.

If you have documented your disability, remember that you must make your request for accommodations through the Center for Accessibility Resources Online Services web page every term in order to receive accommodations. If you believe you may need accommodations but are not yet registered with CFAR, please visit the CFAR website at <http://www.linnbenton.edu/cfar> for steps on how to apply for services or call 541-917-4789.

LBCC Comprehensive Statement of Nondiscrimination: LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, gender, gender identity, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws. For further information see Board Policy P1015 in our [Board Policies and Administrative Rules](#)

Request for Special Needs or Accommodations: Direct questions about or requests for special needs or accommodations to the LBCC Disability Coordinator, RCH-105, 6500 Pacific Blvd. SW, Albany, Oregon 97321, Phone 541-917-4789 or via Oregon Telecommunications Relay TTD at 1-800-735-2900 or 1-800-735-1232. Make sign language interpreting or real-time transcribing requests 2-4 weeks in advance. Make all other requests at least 72 hours prior to the event. LBCC will make every effort to honor requests. LBCC is an equal opportunity educator and employer.

Registration Instructions for Sapling Online Homework

1. Go to saplinglearning.com and click on the **Higher Ed** option for your country at the top right.
2. Log in with your existing account or click **Create an Account**. If you have a Facebook account, you can use it to quickly create a Sapling Learning account. Click Create my account through Facebook. You will be prompted to log into Facebook if you aren't already. Choose a username and password, then click Link Account. Otherwise, supply the requested information and click Create My Account. Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email. If you don't get the email within 30 minutes, contact support@saplinglearning.com.
3. Look for the gray bar entitled **Enroll in a new course**.
4. Click on your subject to expand the menu.
5. Click on the term to expand the menu further (**note** that Semester 1 refers to the first course in a sequence and not necessarily the first term of the school year).
6. Once the menus are fully expanded, you'll see a link to a specific course. If this is indeed the course you'd like to register for, click the link. Otherwise, continue expanding the other menus until you locate the correct link and click it.
7. Enter your zip code and pay if necessary. Most courses require payment using a credit card, a PayPal account, or an **Access Card Code** (<http://www2.saplinglearning.com/help/how-do-i-enter-code-my-scratch-card>) from a scratch-off card purchased at your bookstore. In some cases, you may have additional options to [enter the course for free for x days](#), to use your [Sapling Learning credit.](#), or to buy [multiple items for a bulk discount](#).

When you return from paying, you will be enrolled in your course. If your credit card is not accepted, it may help to create a PayPal account, store your credit card info there, then use the PayPal option to pay for Sapling Learning. Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments. If you have any problems, send an email to support@saplinglearning.com explaining your issue.

The Sapling Learning support team is almost always faster and better able to resolve issues than your instructor.